PRCTI20250870

City of Puyallup Development & Permitting Services ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

STRUCTURAL CALCULATIONS

FOR

SOUTH HILL CENTER

PLANET FITNESS

T.I.

4102 S. MERIDIAN
PUYALLUP, WA 98373

ARCHITECT

JACKSON MAIN ARCHITECTURE

5-15-25

BLAZE BRESKO
STATE OF WASHINGTON
31728
STRUCTURAL ENGINEER
PROFESSIONAL ENGINEER

SSF / STRUCTURAL ENGINEERING

PROJECT — Planet Fitness

DATE

PROJ.

DESIGN

SHEET — Cover

Criteria Sheet

Codes

Structural	IBC 2021
Loading	ASCE 7-16
Wood	NDS 2018 / SDPWS 2021
Steel	AISC 360-16
Concrete	ACI 318-19
Masonry	TMS 402/602-16

Project Location

Street & Number	4102 s meridian
City	puyallup
State	WA
ZIP	98373
Latitude	47.1519 N
Longitude	-122.2952 W
Ground Elevation	459 ft

Occupancy Category

Risk Category: II ASCE 7 Table 1.5-1

Seismic Load Summary:

Analysis Procedure: Equivalent Lateral Force Procedure

Lateral System: Intermediate Precast Shear Walls

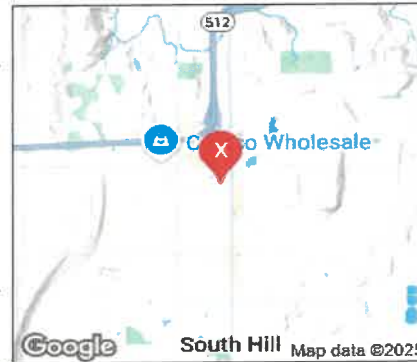|			
R: 4.00		C_d = 4	
Base Shear V = 215.0		Ω_o = 2	
S_S = 1.261		S_1 = 0.435	
S_{DS} = 1.00		S_{D1} = 0.81	
C_s = 0.250		I_E = 1.0	

Story Information

Stories Above Grade (Including Mezzanine Levels) 1

Horizontal and Vertical Irregularities:

Is the building a "Regular Structure"? (No horizontal or vertical irregularities) Yes

Wind Load Summary:

V = 98	K_{ZT} = 1.00
Exposure = B	

Dead Loads:

Roof			Floor	NA	
Roofing	3 psf		Finish Floor		psf
Decking	2 psf		3/4" Sheathing		psf
Framing	2.5 psf		Joists @ 16" oc		psf
Misc./Mech.	1 psf		Misc./Mech.		psf
Ceiling Finish	2.5 psf		Ceiling Finish		
	psf			0 psf	
	11.0 psf		Use		psf
Use	10 psf		Add'l Seismic Weight		psf
Add'l Seismic Weight	5 psf		Seismic Weight	0 psf	
Seismic Weight	15 psf				

Live Loads:

Roof	20	psf
Floor	40	psf

Snow Loading Criteria:

Ground Snow, p_g	25 psf	Flat Roof Snow Load, p_f	25.0 psf	Importance Factor, I_s	1.00
Exposure Factor, C_e	1.00	Sloped Roof Snow Load, p_s	25.0 psf		
Thermal Factor, C_t	1.00	Slope Factor, C_s	1.00		

Soils:

Allowable Bearing	1500	psf	Active	55/35	pcf (Restrained/Unrestrained)
Sliding, μ	0.3		Seismic Surcharge	8H	
Passive	250	pcf			

Soils Report Provided? No To be approved by the authority having jurisdiction, per 11.8.2 exception.

Site Specific Ground Motion Hazard Analysis Provided? No

Planet Fitness	DATE 4/30/2025
Criteria	PROJ. #
	DESIGN ENG
	SHEET 1

SSF STRUCTURAL ENGINEERING

Seismic Design

| ASCE 7-16 Seismic Analysis | Equivalent Lateral Force Procedure | Apply Section 12.8.1.3 (Where Applicable)? | Yes |

| Seismic Force Resisting System Per Table 12.2-1 | System | Bearing Wall Systems |
| | Type: | Intermediate Precast Shear Walls |

Seismic Design Cat.	D	
Risk Category	II	I, II, or III, or IV per Table 1.5-1
Site Class	D (Default)	Assumed default soil properties, per 11.4.3.
Diaphragm Flexibility	Flexible	

Section 12.8.1.3

1. Regular Structure	Yes
2. ≤ 5 Stories above grade	Yes
3. T ≤ 0.5s	Yes
4. ρ = 1.0	Yes
5. Not Site Class E or F	Yes
6. Risk Category I or II	Yes

If all items above are met, S_{DS} may be taken as 1.0, but not less than 0.7*(Calculated S_{DS})

S_S	1.261 g	2% in 50 yr, Latitude & Longitude lookup
S_1	0.435 g	2% in 50 yr, Latitude & Longitude lookup
R	4.00	
C_d	4.0	
Ω_o	2	
I_e	1.00	Table 1.5-2
h_n	25.0 ft	
Ct	0.02	Table 12.8-2
x	0.75	Table 12.8-2
T_a	0.22 sec	
T	0.22 sec	Eq. 12.8-7
T_0	0.16 sec	
T_S	0.81 sec	
T_L	6.00 sec	
F_a	1.20	Table 11.4-1
F_v	1.87	Table 11.4-2
S_{MS}	1.51 g	Eq. 11.4-1
S_{M1}	1.22 g	Eq. 11.4-2
S_{DS}	1.000 g	Eq. 11.4-3
S_{D1}	0.811 g	Eq. 11.4-4

Building Period Per Alternate Analysis

| T (sec) | |

Per Geotech Report

| F_a | |
| F_v | |

	0.250 Controls	Eq. 12.8-2
C_s	0.907	Eq. 12.8-3 need not exceed, T < T_L
	0.010	Eq. 12.8-5 or 12.8-6 minimum
C_s, design	0.250	
Bldg. Weight	860.0 k	
$V = C_s W$	215.0 k	Eq. 12.8-1, Strength Level Base Shear
$V = C_{Sasd} W$	150.5 k	Eq. 12.8-1 ASD Base Shear

$$T_a = C_t h_n^x \qquad \text{Eq. 12.8.7}$$

$$S_{MS} = F_a S_S \qquad \text{Eq. 11.4-1}$$
$$S_{M1} = F_v S_1 \qquad \text{Eq. 11.4-2}$$
$$S_{DS} = {}^2/_3 S_{MS} \qquad \text{Eq. 11.4-3}$$
$$S_{D1} = {}^2/_3 S_{M1} \qquad \text{Eq. 11.4-4}$$

$$C_S = \frac{S_{DS}}{(R/I_e)} \qquad \text{Eq. 12.8-2}$$
$$C_S = \frac{S_{D1}}{T(R/I_e)} \qquad \text{Eq. 12.8-3}$$
$$C_S = \frac{S_{D1}T_L}{T^2(R/I_e)} \qquad \text{Eq. 12.8-4}$$
$$C_S \geq 0.044 S_{DS} I_e \qquad \text{Eq. 12.8-5}$$
$$C_S \geq 0.01 \qquad \text{Eq. 12.8-5}$$

$$C_{VX} = w_x h_x^k / \textstyle\sum_{i=1}^{n} w_x h_i^k \qquad \text{Eq. 12.8-12}$$

$$F_{px} = \textstyle\sum_{i=x}^{n} F_i / \sum_{i=x}^{n} w_i \, w_{px} \qquad \text{Eq. 12.10-1}$$
$$F_{px} \geq 0.2 S_{DS} I_e w_{px} \qquad \text{Eq. 12.10-2}$$

Vertical Distribution   ASD   ρ= 1   k= 1.000

Level	h_x (ft)	W_x (k)	h_x^k (ft)	$W_x h_x^k$	Story Shear ASD			Diaphragm Force (ρ not included)				
					C_{vx} (%)	F_x (k)	SV (k)	$F_{px,calc}$	$F_{px,min}$	$F_{px,max}$	$F_{px,design}$	$\gamma = F_{px}/F_x$
1	25.0	860	25.0	21500	1.000	150.5	**150.5**	150.5	120.4	240.8	**150.5**	1.00
Σ		860.0		21500		**150.5**						

Planet Fitness	DATE: 4/30/2025
Seismic Criteria	PROJ. #
	DESIGN: ENG
	SHEET: 2

SSF STRUCTURAL ENGINEERING

Wind Design - MWFRS

ASCE 7 Chapter 27 - Directional Procedure

Design Method	ASD

Wind Coefficients

Exposure	B	
V=	98	mph
K_d=	0.85	Table 26.6-1
K_h=	0.67	Table 27.3-1
K_e=	0.98	Table 26.9-1
G=	0.85	26.9.4

Location and Building Dimensions

Calculate Kzt?	Yes	
Kzt	1.00	
Roof Type	Monoslope	
Roof Slope - Transverse Dir	0	degrees
Roof Slope - Long Dir	0	degrees
Ground to top of roof	25	ft
Bot of roof to top of roof	0	ft
Mean Roof Height, h	25	ft
Short Plan Dimension	150	ft
Long Plan Dimension	215	ft
Parapet ?	Yes	
Ground to top of parapet	27	ft
Average Parapet Height	1	ft

Velocity Pressure at Mean Roof Height, q_h =	13.7	psf

Transverse Wind Pressures

L/B = 0.70   h/L = 0.17

Pressure Coefficients from Figure 27.4-1:

Bldg Face	C_p
Windward Wall	0.8
Leeward Wall	-0.50
Windward Roof	-0.9 / -0.18
Leeward Roof	-0.30

Wall Pressures (Unfactored):

ASD

Ht	K_z	q_z	$P_{ww walls}$	$P_{lwwalls}$	P_{walls} (psf)
0-15	0.57	11.72	7.97	5.81	9.6
15-20	0.62	12.74	8.67	5.81	9.6
20-25	0.66	13.57	9.22	5.81	9.6
25-30	0.7	14.39	9.78	5.81	9.6
30-40	0.76	15.62	10.62	5.81	9.9
41-50	0.81	16.65	11.32	5.81	10.3
51-60	0.85	17.47	11.88	5.81	10.6
61-70	0.89	18.29	12.44	5.81	10.9
71-80	0.93	19.11	13.00	5.81	11.3
81-90	0.96	19.73	13.42	5.81	11.5
91-100	0.99	20.35	13.84	5.81	11.8

Roof Pressures (Unfactored)

ASD

Windward		Leeward	Horiz Proj (psf)
Max	Min		
-2.1	-10.5	-3.5	4.80

Longitudinal Wind Pressures

L/B = 1.43   h/L = 0.12

Pressure Coefficients from Figure 27.4-1:

Bldg Face	C_p
Windward Wall	0.8
Leeward Wall	-0.41
Windward Roof	-0.9 / -0.18
Leeward Roof	-0.30

Wall Pressures (Unfactored):

ASD

Ht	K_z	q_z	$P_{ww walls}$	$P_{lwwalls}$	P_{walls} (psf)
0-15	0.57	11.72	7.97	4.80	9.60
15-20	0.62	12.74	8.67	4.80	9.60
20-25	0.66	13.57	9.22	4.80	9.60
25-30	0.7	14.39	9.78	4.80	9.60
30-40	0.76	15.62	10.62	4.80	9.60
41-50	0.81	16.65	11.32	4.80	9.67
51-60	0.85	17.47	11.88	4.80	10.01
61-70	0.89	18.29	12.44	4.80	10.34
71-80	0.93	19.11	13.00	4.80	10.68
81-90	0.96	19.73	13.42	4.80	10.93
91-100	0.99	20.35	13.84	4.80	11.18

Roof Pressures (Unfactored)

ASD

Windward		Leeward	Horiz Proj (psf)
Max	Min		
-2.1	-10.5	-3.5	4.80

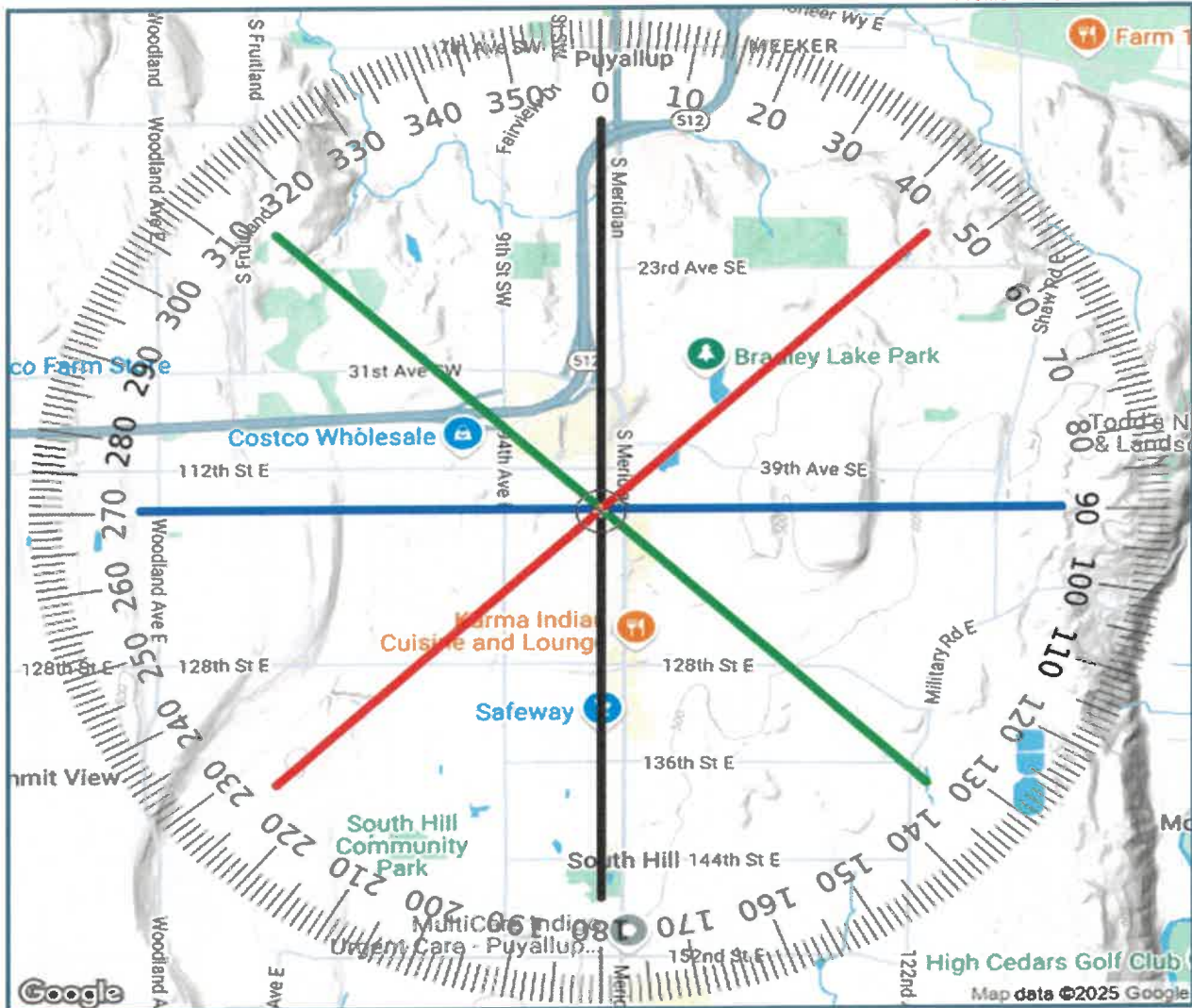|		
Planet Fitness	DATE	4/30/2025
Wind Criteria	PROJ. #	
	DESIGN	ENG
	SHEET	3

SSF STRUCTURAL ENGINEERING

Site Address

Address: 4102 s meridian
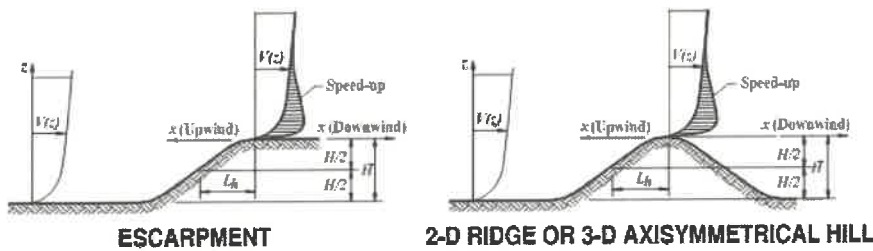City: puyallup State: WA
Lat Long: 47.15186 -122.2952

Wind Radius: 2.00 Miles
Angle: 0 °
Exposure: B

Profile 1 : 0 ° to 180 °
Profile 2 : 270 ° to 90 °
Profile 3 : 315 ° to 135 °
Profile 4 : 45 ° to 225 °

SITE MAP

Topography from Figure 26.8-1

ESCARPMENT

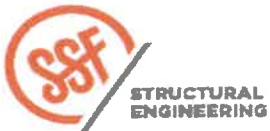**2-D RIDGE OR 3-D AXISYMMETRICAL HILL**

$$K_{zt} = (1 + K_1 K_2 K_3)^2$$
$$K_1 = \text{Per Figure}$$
$$K_2 = (1 - |x|/\mu L_h)$$
$$K_3 = e^{-\gamma z/L_h}$$
$$K_{zt} = 1, \text{ If } H/Lh \leq 0.2$$
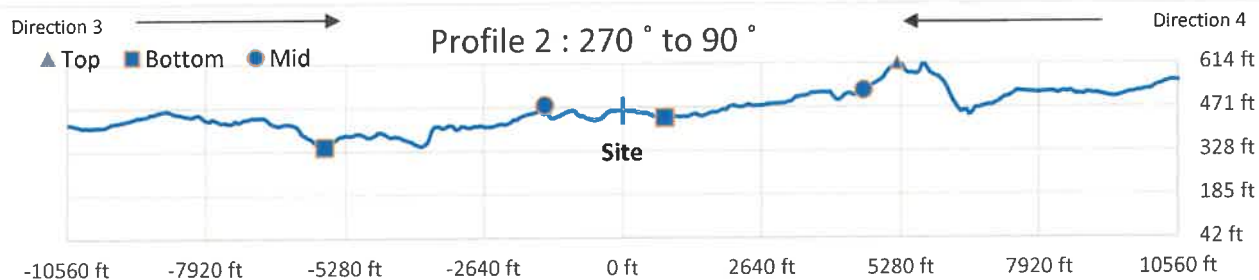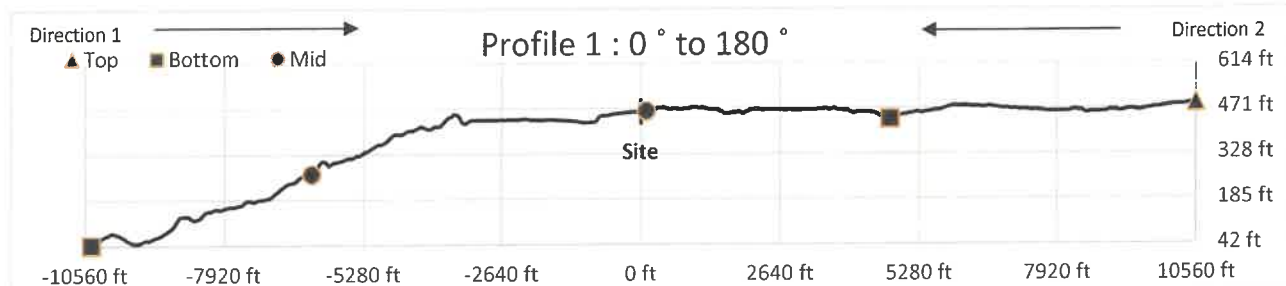
PER FIGURE 26.8-1

Planet Fitness		DATE	4/30/2025
Kzt Calculations		PROJ. #	
		DESIGN	ENG
		SHEET	4

SSF STRUCTURAL ENGINEERING

Profile 1 : 0 ° to 180 °

Direction 1 → ▲ Top ■ Bottom ● Mid

Direction 2 ← 614 ft / 471 ft / 328 ft / 185 ft / 42 ft

Site

-10560 ft | -7920 ft | -5280 ft | -2640 ft | 0 ft | 2640 ft | 5280 ft | 7920 ft | 10560 ft

Profile 2 : 270 ° to 90 °

Direction 3 → ▲ Top ■ Bottom ● Mid

Direction 4 ← 614 ft / 471 ft / 328 ft / 185 ft / 42 ft

Site

-10560 ft | -7920 ft | -5280 ft | -2640 ft | 0 ft | 2640 ft | 5280 ft | 7920 ft | 10560 ft

Direction 1 - 0 °to Site

Site Conditions (26.8.1)

1. Unubstructed	Yes
2. Isolated	Yes
3. Upper Half Hill	Yes
4. H/Lh ≥ 0.2	No
5. H≥ 60'	Yes

Kzt=1

Terrain Data

Terrain	Ridge
Top of Hill Dist.	10560
Bott. of Hill Dist.	-10454
L @ H/2	-6262
Site	upwind
Top of Hill Elev.	487
Bott. of Hill Elev.	42
Site Elev.	459.3
Site Dist.	0
H/2	264

Kzt Calculations

H=	445
Lh=	16822
x=	10560
z=	25
μ=	1.5
γ=	3
K1 value =	1.3
K1=	0.03
K2=	0.58
k3=	1.00
H/Lh =	0.03
Kzt =	1.00

Direction 2 - Site to 180 °

Site Conditions (26.8.1)

1. Unubstructed	Yes
2. Isolated	Yes
3. Upper Half Hill	No
4. H/Lh ≥ 0.2	No
5. H≥ 60'	Yes

Kzt=1
Kzt=1

Terrain Data

Terrain	Ridge
Top of Hill Dist.	10560
Bott. of Hill Dist.	4723
L @ H/2	106
Site	downwnd
Top of Hill Elev.	487
Bott. of Hill Elev.	436
Site Elev.	459.3
Site Dist.	0
H/2	461

Kzt Calculations

H=	51
Lh=	10454
x=	10560
z=	25
μ=	1.5
γ=	3
K1 value =	1.3
K1=	0.01
K2=	0.33
k3=	0.99
H/Lh =	0.00
Kzt =	1.00

Direction 3 - 270 °to Site

Site Conditions (26.8.1)

1. Unubstructed	Yes
2. Isolated	Yes
3. Upper Half Hill	No
4. H/Lh ≥ 0.2	No
5. H≥ 60'	Yes

Kzt=1
Kzt=1

Terrain Data

Terrain	Ridge
Top of Hill Dist.	5200
Bott. of Hill Dist.	-5678
L @ H/2	-1486
Site	upwind
Top of Hill Elev.	614
Bott. of Hill Elev.	341
Site Elev.	459.3
Site Dist.	0
H/2	477

Kzt Calculations

H=	273
Lh=	6686
x=	5200
z=	25
μ=	1.5
γ=	3
K1 value =	1.3
K1=	0.05
K2=	0.48
k3=	0.99
H/Lh =	0.04
Kzt =	1.00

Direction 4 - Site to 90 °

Site Conditions (26.8.1)

1. Unubstructed	Yes
2. Isolated	Yes
3. Upper Half Hill	No
4. H/Lh ≥ 0.2	Yes
5. H≥ 60'	Yes

Kzt=1

Terrain Data

Terrain	Ridge
Top of Hill Dist.	5200
Bott. of Hill Dist.	796
L @ H/2	4564
Site	downwnd
Top of Hill Elev.	614
Bott. of Hill Elev.	437
Site Elev.	459.3
Site Dist.	0
H/2	526

Kzt Calculations

H=	177
Lh=	636
x=	5200
z=	25
μ=	1.5
γ=	3
K1 value =	1.3
K1=	0.36
K2=	0.00
k3=	0.89
H/Lh =	0.28
Kzt =	1.00

Planet Fitness	
Kzt Calculations	

STRUCTURAL ENGINEERING

DATE	4/30/2025
PROJ. #	
DESIGN	ENG
SHEET	5

Profile 3 : 315 ° to 135 °

Direction 5 → ▲ Top ■ Bottom ● Mid

Direction 6 ←

	614 ft
	471 ft
Site	328 ft
	185 ft
	42 ft

-10560 ft -7920 ft -5280 ft -2640 ft 0 ft 2640 ft 5280 ft 7920 ft 10560 ft

Profile 4 : 45 ° to 225 °

Direction 7 → ▲ Top ■ Bottom ● Mid

Direction 8 ←

	614 ft
	471 ft
Site	328 ft
	185 ft
	42 ft

-10560 ft -7920 ft -5280 ft -2640 ft 0 ft 2640 ft 5280 ft 7920 ft 10560 ft

Direction 5 - 315 °to Site

Site Conditions (26.8.1)

1. Unubstructed	Yes
2. Isolated	Yes
3. Upper Half Hill	Yes
4. H/Lh ≥ 0.2	No (Kzt=1)
5. H≥ 60'	Yes

Terrain Data

Terrain	Ridge
Top of Hill Dist.	10189
Bott. of Hill Dist.	-9021
L @ H/2	-3025
Site	upwind
Top of Hill Elev.	573
Bott. of Hill Elev.	228
Site Elev.	459.3
Site Dist.	0
H/2	401

Kzt Calculations

H=	345
Lh=	13214
x=	10189
z=	25
μ=	1.5
γ=	3
K1 value =	1.3
K1=	0.03
K2=	0.49
k3=	0.99
H/Lh =	0.03
Kzt =	1.00

Direction 6 - Site to 135 °

Site Conditions (26.8.1)

1. Unubstructed	Yes
2. Isolated	Yes
3. Upper Half Hill	No (Kzt=1)
4. H/Lh ≥ 0.2	No (Kzt=1)
5. H≥ 60'	Yes

Terrain Data

Terrain	Ridge
Top of Hill Dist.	10189
Bott. of Hill Dist.	5731
L @ H/2	7429
Site	downwnd
Top of Hill Elev.	573
Bott. of Hill Elev.	442
Site Elev.	459.3
Site Dist.	0
H/2	507

Kzt Calculations

H=	131
Lh=	2760
x=	10189
z=	25
μ=	1.5
γ=	3
K1 value =	1.3
K1=	0.06
K2=	0.00
k3=	0.97
H/Lh =	0.05
Kzt =	1.00

Direction 7 - 45 °to Site

Site Conditions (26.8.1)

1. Unubstructed	Yes
2. Isolated	Yes
3. Upper Half Hill	Yes
4. H/Lh ≥ 0.2	No (Kzt=1)
5. H≥ 60'	Yes

Terrain Data

Terrain	Ridge
Top of Hill Dist.	9923
Bott. of Hill Dist.	-10560
L @ H/2	-4723
Site	upwind
Top of Hill Elev.	532
Bott. of Hill Elev.	386
Site Elev.	459.3
Site Dist.	0
H/2	459

Kzt Calculations

H=	147
Lh=	14646
x=	9923
z=	25
μ=	1.5
γ=	3
K1 value =	1.3
K1=	0.01
K2=	0.55
k3=	0.99
H/Lh =	0.01
Kzt =	1.00

Direction 8 - Site to 225 °

Site Conditions (26.8.1)

1. Unubstructed	Yes
2. Isolated	Yes
3. Upper Half Hill	No (Kzt=1)
4. H/Lh ≥ 0.2	No (Kzt=1)
5. H≥ 60'	Yes

Terrain Data

Terrain	Ridge
Top of Hill Dist.	9923
Bott. of Hill Dist.	7535
L @ H/2	10560
Site	downwnd
Top of Hill Elev.	532
Bott. of Hill Elev.	406
Site Elev.	459.3
Site Dist.	0
H/2	469

Kzt Calculations

H=	126
Lh=	637
x=	9923
z=	25
μ=	1.5
γ=	3
K1 value =	1.3
K1=	0.26
K2=	0.00
k3=	0.89
H/Lh =	0.20
Kzt =	1.00

Planet Fitness	DATE	4/30/2025
Kzt Calculations	PROJ. #	
	DESIGN	ENG
	SHEET	6

SSF STRUCTURAL ENGINEERING

24'-6" PANEL | 24'-6" PANEL

18'-6" OPN'G

← DWSJ (38' SPAN)

8' CANTILEVER STUDS

ADD BRACE FOR GOOD MEASURE

34'

8'

12'

8'

15' OPENING

E_x
$27\frac{1}{2}$

$E_x\ 7'14"$ CONC

$25'±$

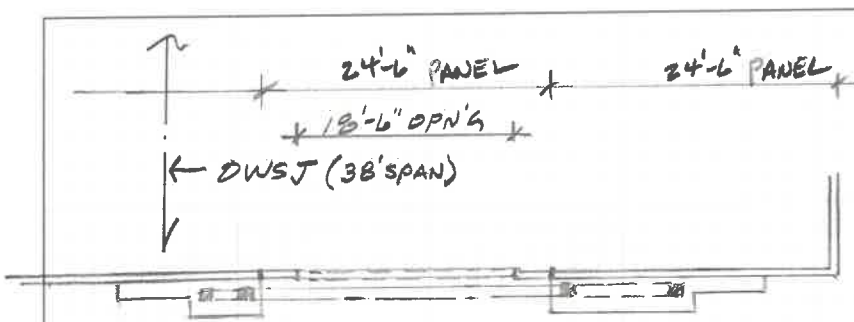**NEW OPENING IN P.C. PANEL**

CHECK SPANDREL FOR OPENING

$W = .04\left(\frac{38}{2}\right) + \frac{7\frac{1}{4}}{12}(.15)(12) = 1.85\ ^k/_1$ $L = 18.5$

$d = 132"$ $R = 17^k$

$S = 7\frac{1}{4}$ $A_s = .19\ in^2$ $M = 79^{k'}\ (112^{k'}\ ULT)$

MIN STEEL IN WALL OK

HORIZ BEAM TO RESIST OUT-OF-PLANE

$W_{max} = .020(12') = .24\ ^k/_1$ AVG

$L = 26'$ $HSS\ 8\times8\times\frac{3}{16}$

$R = 3.1^k$ $f_b = 16.7\ ksi$

$M = 20^{k'}$ $\delta = 1.46" = \ ^L/_{213}$

VERTICAL POST EA SIDE OF HORIZ TO RESIST OUT-OF-PLANE

$P = .24\left(\frac{36}{2}\right) = 4.3^k$

$M = 25.3^{k'}$ $HSS\ 8\times8\times\frac{3}{16}$

$f_b = 20.8\ ksi$

$\Delta = 1.41" = \ ^L/_{222}$

$P \rightarrow$

$\langle\ 9'\ 2.8$

$17'$

1.5

NEW   Ex SECTION

STUD FRAMING

FOR SIMPLE SPAN $H = 16'$

$600S162-43\ @\ 16$ $W = 20psf$

$H_{allow} = 17'-7"\ (^L/_{360})$

$19'-0"\ (^L/_{240})$

CANTILEVER PARAPET STUDS

8' CANTILEVER

$W = 30psf\ max\ (ASD)$ $\frac{8\ 8}{.48\%}$

$M = .96\ ^{k'}/_1\ (1.33) = 15^{k''}$

$600S162-54\ @\ 16$

$M_a = 25.9\ ^{k''}$

$\Delta = .85" = \ ^L/_{225}$ ✓
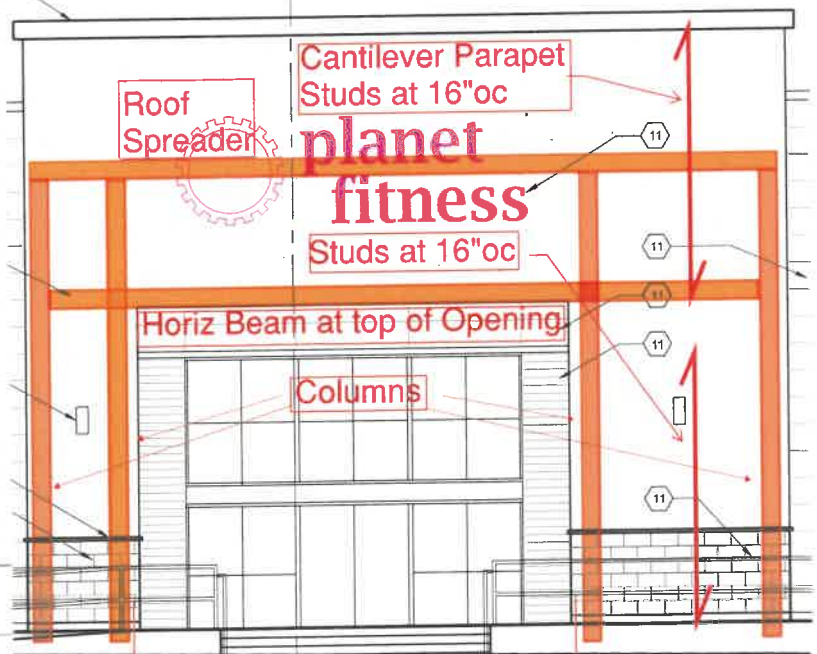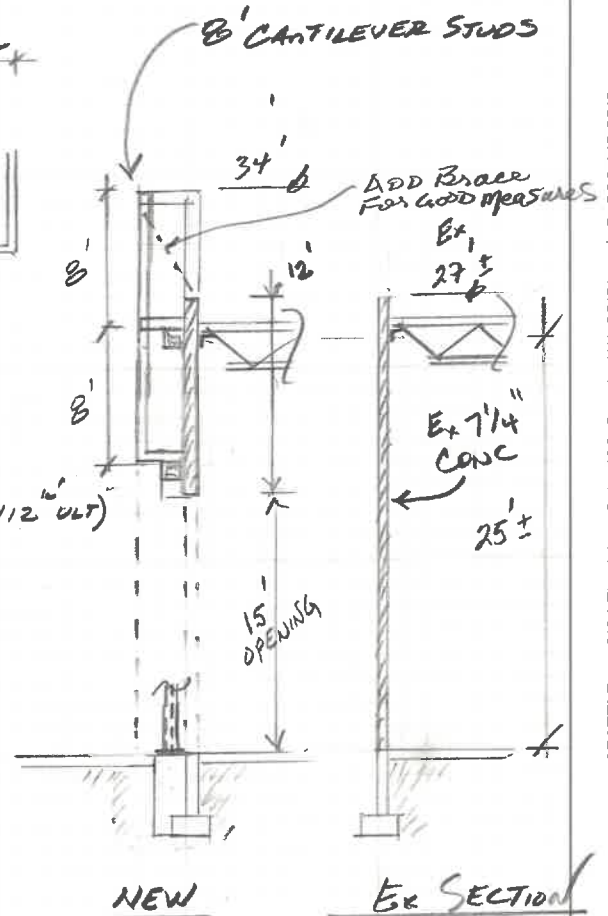
Cantilever Parapet Studs at 16"oc

Roof Spreader

planet fitness

Studs at 16"oc

Horiz Beam at top of Opening

Columns

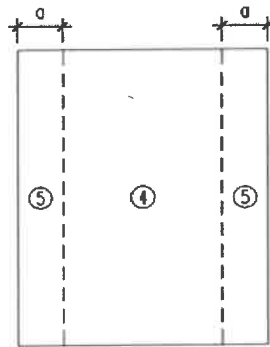*PLANET FITNESS*
PROJECT

Project
V= **98** mph (Design Wind Speed)
Kzt= **1** (default 1.0)
Kd= **0.85** (default 1.0)
I= **1** (default 1.0)
Gcpi= **0.18** (+ or -)(default 0.18)
h= **25** ft (mean roof height above grade)
Exposure= **B**
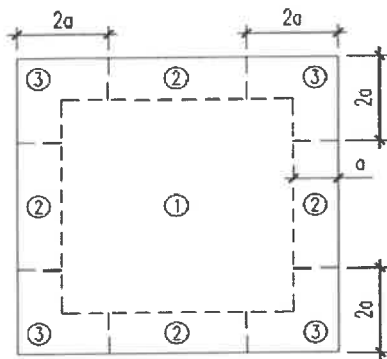
ROOF PLAN

WALL ELEVATION

ULTIMATE WIND PRESSURES - COMPONENTS AND CLADDING

ZONE	COMPONENT AREA	DESIGN PRESSURE (PSF)
①	10 SQFT (OR LESS)	-23
	500 SQFT (OR MORE)	-16
②	10 SQFT (OR LESS)	-36
	500 SQFT (OR MORE)	-26
③	10 SQFT (OR LESS)	-49
	500 SQFT (OR MORE)	-36
④	20 SQFT (OR LESS)	-16 / + 16
	500 SQFT (OR MORE)	-13 / + 11
⑤	20 SQFT (OR LESS)	-29 / + 16
	500 SQFT (OR MORE)	-17 / + 11

NOTES:
• PRESSURES MAY BE INTERPOLATED FOR
COMPONENT AREAS BETWEEN AREA LIMITS AS LISTED

• a = 10% OF LEAST HORIZONTAL BUILDING
DIMENSION (BUT NOT LESS THAN 3'-0")

• POSITIVE VALUES INDICATE PRESSURE TOWARDS
SURFACE, NEGATIVE VALUES INDICATE PRESSURE
AWAY FROM SURFACE (SUCTION)

COMPONENT AND CLADDING WIND PRESSURE DIAGRAM

PLANET FITNESS

5/15/25

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LATERAL CHECK

EXISTING DRAWINGS NOT AVAILABLE
REMODEL CONSISTS OF CREATING 18'-6"
OPENING IN ONE OF THE Ex PC PANELS
ALONG THE EAST ELEVATION (7'4" PANELS)

GLOBAL LOADING
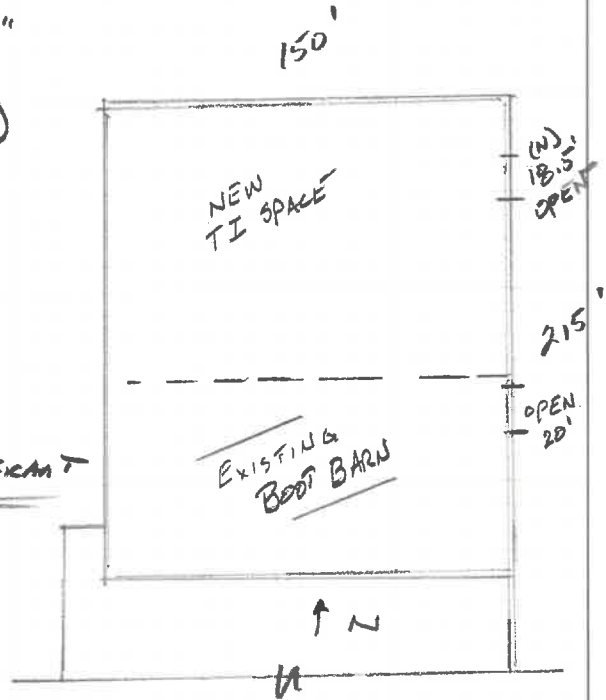
$$W_p = .015(150 \times 215) + .09(14')(150)(2) = 862^k$$

$$C_s = .2 \quad V_s = 172^k \quad (120^k \ ASD)$$

$$L_{WALL (EAST)} = 215 - 48' = 167' = 2004"$$

  ← 2·24' PANELS

$$\nu_s = \frac{120^k}{2} \frac{1}{2004(7'4")} = 4 \ psi$$

CLEARLY INSIGNIFICANT

150'

NEW
TI SPACE

(N)
18.5
OPEN

215'

OPEN
20'

EXISTING
BOOT BARN

↑ N

PLANET FITNESS
PROJECT

5-15-25
DATE

DESIGN

SHEET

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SSF

STRUCTURAL
ENGINEERING